

ABSTRACT

Macrolides particularly erythromycins and azithromycins, having *O*-mycaminosyl or *O*-angolosaminyl groups, particularly at the 5-position, are produced using a gene cassette comprising a combination of genes which, in an appropriate strain background, are able to direct the synthesis of mycaminose or angolosamine and to direct its subsequent transfer to an aglycone or pseudoaglycone. Synthetic genes may comprise one or more of *angMIII*, *angMI*, *angB*, *angAI*, *angAII*, *angorf14*, *angorf4*, *tylMIII*, *tylMI*, *tylB*, *tylAI*, *tylAII*, *eryCVI*, *spnO*, *eryBVI*, *eryK*, *tyl Ia* and *ery G*. Glycosyltransfer genes may comprise one or more of *eryCIII*, *tylMII*, *angMII*, *desVII*, *eryBV*, *spnP* and *midI*.